

SINTERED SILICON NITRIDE

ABSTRACT OF THE DISCLOSURE

- 5 **[0046]** Sintered silicon nitride products comprising predominantly β -
silicon nitride grains in combination with from about 0.1 to 30 mole % silicon
carbide, and grain boundary secondary phases of scandium oxide and
scandium disilicate. Such products have high fracture toughness, resistance to
recession, and resistance to oxidation at temperatures of at least 1500°C.
- 10 Methods for preparing sintered silicon nitride products are also disclosed.